

Final report for SNS research projects 2025-2027

Submit the report to sns@slu.se by 24:00 CET, 1st of March, 2028, at the latest.
The report should not exceed 3500 words (including words in the template).
Please adjust the size of the box according to the length of your answer.

1. Project title:	"Development of ash reproductive material for forestry and nature conservation"
2. Project code:	SNS-130

3. Project coordinator:	Mateusz Liziniewicz
Email:	Mateusz.liziniewicz@skogforsk.se
Institution:	Skogforsk

Activity report

4. Provide a project summary for the whole project period, including:
a) The purpose of the project/main problems/hypothesis addressed The hypothesis of the project is that "careful phenotyping followed by strong forward selection can form 2nd generation ash trees that are suitable for planting in the future forests". This is based on the findings from studies of the 1st ash generation and supported by theoretical expectations. b) A short description of the main activities of the project In the proposed project, follow-up assessments were conducted in the field trials established under the SNS-126 project in order to collect phenotypic observations for every individual within the tested families. The collected data included assessments of seedling mortality, occurrence of ash dieback symptoms using a standardized disease severity rating scale, seedling height, form of the stem, as well as spring and autumn phenology (in part of the trials). We followed all 12 planted trials including ca 14 000 genotypes. In addition, a subset of genotypes from the planted material was selected for sampling and storage of biological material for future DNA analysis. This material will enable subsequent studies linking genomic information with the detailed phenotypic observations collected in the project. c) Achieved targets We collected initial phenotypical data for the planted trials that will be used in the further analysis. We collected and storied the samples for DNA extractions for further studies. We have maintained a series of genetic field trials to be continuously used for genetic studies and selection of superior genotypes. d) Did the network develop and deliver as planned? If not, please explain why Yes, we have completely reached the project goals except publication of scientific article. We have discussed this in the group, but we considered the observation time too short to make the publication. The PhD student supervised by Michelle Cleary is likely to publish a paper from Swedish trials in next coming year.
5. List the published outputs achieved as a consequence of the project (peer-reviewed articles, other publications)
SNS Policy brief: <i>Don't give up on the ash trees - new hope for the future of the Nordic-Baltic ash forests.</i>
6. List other practical outputs of the project (websites, policy recommendations, conferences, scientific meetings, large-scale project applications, research training etc.)

Dissemination at annual professional forestry meetings or excursions:

Nationella växtskyddskonferensen 2025 (M.Cleary). The Swedish National Plant Protection Conference 2025. Exhibition of Rädga Asken. SLU Alnarp. November 2025.

Forestry sector excursion: "Skogsstyrelsen Ädellövsskogsdag" (M.Cleary). Exhibition on Rädga Asken. Skogsstyrelsen, Ullstorp. September 2025.

Forest Damage Centre Annual Excursion. Presentation on Rädga Asken (M.Cleary). Växjö, 24 August 2025

Forestry sector excursion: "Skogsstyrelsen Ädellövsskogsdag". Exhibition on Rädga Asken (M.Cleary). Skogsstyrelsen, Ullstorp. 29 September 2025.

Forest Damage Centre Annual Meeting. Presentation on Rädga Asken (M.Cleary). Eskilstuna, 18 January 2024.

Presentation of poster (ED Kjær): *Resilience of European Ash Forests influenced by Ash Dieback: Seven Reasons for Optimism for Genetic Diversity in ADB Tolerance*. EVOLTREE meeting in Madrid 2025

Invited presentation (ED Kjær): *17 yrs og fighting ash dieback – to from severe concern to new scientific optimism*. Conference at Amt for Waldgenetik, Tiesendorf 2024

NIBIO, Mari Mette Tollefsrud. Seminar in collaboration with the City of Oslo's Agency for Planning and Building Services, NIBIO and Biofokus, 25 February 2026: Ash and Elm – Threatened Tree Species. The seminar is available to watch on Vimeo here: <https://vimeo.com/1173203458?share=copy&fl=sv&fe=ci>

Mari Mette Tollefsrud, Irena Fundova and Thomas Solvin. Results from Norwegian progeny/provenance trials of *Fraxinus excelsior*. Presentation given at a meeting of the NordGen Working Group for Genetic Resources, University of Copenhagen, 26 August 2025.

Invited keynotes at conferences:

(M.Cleary) *Save the Ash (Rädga Asken): Progress, Challenges, and Opportunities*. 8th International Workshop on Resistance Mechanisms & Breeding in Forest Trees: Putting promise to practice in the face of global challenges, June 3, 2025, Vernon BC.

(M.Cleary) *Battling the Decline: Saving Europe's Ash Trees*. Australian Soil Borne Diseases Symposium 2024. Kingscliff NSW, Australia, Aug. 26-30, 2024.

Invited seminars at academic institutions:

(M.Cleary) *European ash regeneration and restoration: challenges and solutions*. Swiss Federal Research Institute WSL Distinguished

Popular scientific:

Tollefsrud, M.M., Høistad Schei, F., Kristiansen, R. 2026. To tiår med askeskuddsjuke – en krevende vei for fortsatt eksistens. SKOG nr1, 2026, side 52-55.

Forskare jager generna som kan rädda asken (2025). ATL. Based on the interviews and field visit with Mateusz Liziniewicz

Alm och ask kan utroras – finns räddnig i Svalöv (2025). Sydsvenskan. Based on the interviews and field visit with Mateusz Liziniewicz

[Ny metod ska hjälpa mot askarnas sjukdom – Natursidan](#) (2026). Natursidan. Based on the interview with Mateusz Liziniewicz

7. How and within which areas was the project beneficial for the Nordic region (Denmark, Finland, Iceland, Norway, Sweden and the autonomous areas of the Faroe Islands, Greenland and Åland Islands)?

The scope of the project was directly related to the focus area "sustainable management of forest resources". The aim of the project was to generate a breeding population of European ash resistant to ash dieback and thereby secure the future use of ash as a regeneration species in practical forestry and conservation activities. The results, in the form of collected material will be used for further joint studies and for selection of tolerant ash genotypes, providing the basis for eventual restoration of diseased landscapes, maintenance of the species in the Nordic and

Baltic region, and future opportunities for ash production.

The great achievement of the project is a maintenance of the large experimental series that is needed for further studies of ash dieback dynamic and resistance of ash.

Participation

8. Number of participants involved in the project activities

(Please adjust the table with countries to match your project)

Country	Early-career researchers/ PhD students	Senior researchers	Stakeholders	Others (specify)	Gender			Total
					Women	Men	Other	
Denmark		2			1	1		2
Finland								
Iceland								
Norway		1			1			1
Sweden	3	2		1	5	1		6
Lithuania	1				1			1
...								
...								
Total	4	5		1	8	2		10

Gender equality actions

In the beginning of the project period, you were introduced to the [gender equality guidelines](#) and asked to perform at least five points from the action step during the whole project period. Fill in the following evaluation scheme with the actions performed. It is new for SNS to introduce these gender equality guidelines to our funded projects, so SNS would really appreciate your feedback on the guidelines and how they have worked for you.

9. Evaluation scheme	
a) Outcome of completed analysis step:	The project leader analyzed the initial status. At the beginning, the project comprised with five senior researchers (3 women and 2 men) and one early career researcher (woman) which made a good gender balance considering a small research group (4-2, 66%-33%).
b) Outcome of completed planning step:	The main challenge for the group was to identify and involve young researchers and to keep the involvement of both genders in the project activities.
c) Outcome of completed action steps (please list each action point performed and their outcome)	The PhD students working with the ash were included in the project. Three PhD students (all women) from Sweden were included in work involved in the project under supervision of Michelle Cleary and Mateusz Liziniewicz. One female technician from Skogforsk (woman) was trained to perform inventories of ash dieback in the trials.
d) How did the actions/tools work for your network:	It ended up that the project was not gender balanced as the number of women in the project increased due to the inclusion of the PhD students.
e) How could SNS provide more support to your network in	I think that the support is good enough.

the work toward gender equality:	
f) General feedback to the gender equality guidelines:	Very clear but it is generally hard to reach a balance when the number of participants is small. Anyway the guidelines allow constant reflection upon the gender equality issue which is itself positive.

Economic report

The economic reporting should include the total received grants and costs for the whole project period

10. Received grant from SNS in total (SEK):

1 050 000

11. Allocation of SNS funding

Country	Partner/institution	Sum (SEK)
Denmark	Copenhagen University, Department of Geosciences and Natural Resource Management, Forest and Landscape Ecology	250000
Sweden	Skogforsk	300000
Norway	NIBIO	250000
Lithuania	Lithuanian Research Centre for Agriculture and Forestry, Institute of Forestry	250000
Total SUM		1050000

12. Costs

(in SEK)	SNS funding	Co-financing		Total
		Cash	In-kind	
Travel and accommodation	10 000	50 000		60 000
Meeting costs				
Communication		20 000		20 000
Salary and OH	790 000		2 390 000	3 180 000
Other costs (specify)	250 000		190 000	440 000
Total SUM (SEK)	1 050 000	70 000	2 580 000	3 700 000

13. Economic result (deficit or surplus):

The economy of the project was in the deficit. The project has been supported by several ongoing projects in the participating countries that could cover the deficit. In Sweden, Skogforsk got a support from the forest company Sveaskog and from the Swedish Government that created good possibilities to maintain the trials in a good shape.

14. Optional: Comments to the economic reporting:

In the position Other cost – 250 000 sek funded by SNS - the funds were used to support the maintenance and assessment of the established ash trial. The main expenses were related to field maintenance, including mowing, care of young trees during the growing season, and the purchase of necessary supplies and materials for trial maintenance. The funds also covered transport costs for field visits, inspections of trial sites, monitoring of tree survival and health, and the collection of plant material for DNA analysis.

Ca 40 000 sek (25 000 dkk) were used for trail maintenance and costs of SNA collections in Denmark.

15. Submit a popular science piece as a separate document for dissemination in SNS' various channels with *emphasis on application of results and benefits for the Nordic society.*

Please see separate document for instructions.

I hereby declare that the above statements are true to the best of my knowledge
 (Please adjust the number of signature boxes to the number of applicants)

Signature of the main applicant/project coordinator

	Skogforsk	2026-06-25
-----	-----	-----
Signature	Institution	Date
Mateusz Liziniewicz		

Printed name		

Signature of the department head at the department of the main applicant

	Skogforsk	2026-06-25
-----	-----	-----
Signature	Institution	Date
Thomas Kraft		

Printed name		

Second applicant's signature, place and date

Lene R. Nielsen

University of Copenhagen

2026-06-25

Signature

Institution

Date

Lene Rstgaard Nielsen

Printed name

Third applicant's signature, place and date

Mari Mette Tollefsrud

Norwegian Institute of
Bioeconomy Research (NIBIO)

2026-06-25

Signature

Institution

Date

Mari Mette Tollefsrud

Printed name

Fourth applicant's signature, place and date

Diana Marciulyne

Lithuanian research Center for
Agriculture and Forestry

2026-06-25

Signature

Institution

Date

Diana Marciulyne

Printed name

Fifth applicant's signature, place and date

	Swedish University of Agricultural Sciences	2026-06-25
-----	-----	-----
Signature	Institution	Date
Michelle Cleary		

Printed name		

Sixth applicant's signature, place and date

	University of Copenhagen	2026-06-25
-----	-----	-----
Signature	Institution	Date
Erik Dahl Kjaer		

Printed name		